

0590
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#2

OIPE

RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/934,455

TIME: 10:14:25

Input Set : D:\MBI25 sequence listing.ST25.txt

Output Set: N:\CRF3\09182001\I934455.raw

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3 <110> APPLICANT: Adam, Luc
4   Creelman, Robert
5   Dubell, Arnold
6   Heard, Jacqueline
7   Jiang, Cai-Zhong
8   Keddie, James
9   Pilgrim, Marsha
10  Ratcliffe, Oliver
11  Reuber, Lynne
12  Riechmann, Jose Luis
13  Yu, Guo-Liang
14  Pineda, Omaira
16 <120> TITLE OF INVENTION: Genes for Modifying Plant Traits IV
18 <130> FILE REFERENCE: MBI-0025
C--> 20 <140> CURRENT APPLICATION NUMBER: US/09/934,455 OK
C--> 20 <141> CURRENT FILING DATE: 2001-08-22
20 <150> PRIOR APPLICATION NUMBER: 60/227439
21 <151> PRIOR FILING DATE: 2000-08-22
23 <150> PRIOR APPLICATION NUMBER: MBI-0022
24 <151> PRIOR FILING DATE: 2001-11-16
26 <150> PRIOR APPLICATION NUMBER: MBI-0023
27 <151> PRIOR FILING DATE: 2001-04-17
29 <160> NUMBER OF SEQ ID NOS: 516
31 <170> SOFTWARE: PatentIn version 3.1
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35 <212> TYPE: DNA
36 <213> ORGANISM: Arabidopsis thaliana
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41 <223> OTHER INFORMATION: G28
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48 Met Ser Met Thr Ala Asp Ser Gln Ser Asp Tyr Ala Phe Leu Glu
49 1 5 10 15
51 tcc ata cga cga cac tta cta gga gaa tcg gag ccg ata ctc agt gag      155
52 Ser Ile Arg Arg His Leu Leu Gly Glu Ser Glu Pro Ile Leu Ser Glu
53 20 25 30
55 tcg aca gcg agt tcg gtt act caa tct tgt gta acc ggt cag agc att      203
56 Ser Thr Ala Ser Ser Val Thr Gln Ser Cys Val Thr Gly Gln Ser Ile
57 35 40 45
59 aaa ccg gtg tac gga cga aac cct agc ttt agc aaa ctg tat cct tgc      251
60 Lys Pro Val Tyr Gly Arg Asn Pro Ser Phe Ser Lys Leu Tyr Pro Cys
61 50 55 60
63 ttc acc gag agc tgg gga gat ttg ccg ttg aaa gaa aac gat tct gag      299

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67 gat atg tta gtt tac ggt atc ctc aac gac gcc ttt cac ggc ggt tgg      347
68 Asp Met Leu Val Tyr Gly Ile Leu Asn Asp Ala Phe His Gly Gly Trp
69 80      85      90      95
71 gag ccg tct tct tcg tct tcc gac gaa gat cgt agc tct ttc ccg agt      395
72 Glu Pro Ser Ser Ser Ser Ser Asp Glu Asp Arg Ser Ser Phe Pro Ser
73      100      105      110
75 gtt aag atc gag act ccg gag agt ttc gcg gcg gtg gat tct gtt ccg      443
76 Val Lys Ile Glu Thr Pro Glu Ser Phe Ala Ala Val Asp Ser Val Pro
77      115      120      125
79 gtc aag aag gag aag acg agt cct gtt tcg gcg gcg gtg acg gcg gcg      491
80 Val Lys Lys Glu Lys Thr Ser Pro Val Ser Ala Ala Val Thr Ala Ala
81      130      135      140
83 aag gga aag cat tat aga gga gtg aga caa agg ccg tgg ggg aaa ttt      539
84 Lys Gly Lys His Tyr Arg Gly Val Arg Gln Arg Pro Trp Gly Lys Phe
85      145      150      155
87 gcg gcg gag att aga gat ccg gcg aag aac gga gct agg gtt tgg tta      587
88 Ala Ala Glu Ile Arg Asp Pro Ala Lys Asn Gly Ala Arg Val Trp Leu
89 160      165      170      175
91 gga acg ttt gag acg gcg gag gac gcg gcg ttg gct tac gac aga gct      635
92 Gly Thr Phe Glu Thr Ala Glu Asp Ala Ala Leu Ala Tyr Asp Arg Ala
93      180      185      190
95 gct ttc agg atg cgt ggt tcc cgc gct ttg ttg aat ttt ccg ttg aga      683
96 Ala Phe Arg Met Arg Gly Ser Arg Ala Leu Leu Asn Phe Pro Leu Arg
97      195      200      205
99 gtt aat tca gga gaa ccc gac ccg gtt cga atc aag tcc aag aga tct      731
100 Val Asn Ser Gly Glu Pro Asp Pro Val Arg Ile Lys Ser Lys Arg Ser
101      210      215      220
103 tct ttt tct tct tct aac gag aac gga gct ccg aag aag agg aga acg      779
104 Ser Phe Ser Ser Ser Asn Glu Asn Gly Ala Pro Lys Lys Arg Arg Thr
105      225      230      235
107 gtg gcc gcc ggt ggt gga atg gat aag gga ttg acg gtg aag tgc gag      827
108 Val Ala Ala Gly Gly Gly Met Asp Lys Gly Leu Thr Val Lys Cys Glu
109 240      245      250      255
111 gtt gtt gaa gtg gca cgt ggc gat cgt tta ttg gtt tta taa      869
112 Val Val Glu Val Ala Arg Gly Asp Arg Leu Leu Val Leu
113      260      265
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132      20      25      30

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139 Pro Val Tyr Gly Arg Asn Pro Ser Phe Ser Lys Leu Tyr Pro Cys Phe
140          50          55          60
143 Thr Glu Ser Trp Gly Asp Leu Pro Leu Lys Glu Asn Asp Ser Glu Asp
144 65          70          75          80
147 Met Leu Val Tyr Gly Ile Leu Asn Asp Ala Phe His Gly Gly Trp Glu
148          85          90          95
151 Pro Ser Ser Ser Ser Ser Asp Glu Asp Arg Ser Ser Phe Pro Ser Val
152          100          105          110
155 Lys Ile Glu Thr Pro Glu Ser Phe Ala Ala Val Asp Ser Val Pro Val
156          115          120          125
159 Lys Lys Glu Lys Thr Ser Pro Val Ser Ala Ala Val Thr Ala Ala Lys
160          130          135          140
163 Gly Lys His Tyr Arg Gly Val Arg Gln Arg Pro Trp Gly Lys Phe Ala
164 145          150          155          160
167 Ala Glu Ile Arg Asp Pro Ala Lys Asn Gly Ala Arg Val Trp Leu Gly
168          165          170          175
171 Thr Phe Glu Thr Ala Glu Asp Ala Ala Leu Ala Tyr Asp Arg Ala Ala
172          180          185          190
175 Phe Arg Met Arg Gly Ser Arg Ala Leu Leu Asn Phe Pro Leu Arg Val
176          195          200          205
179 Asn Ser Gly Glu Pro Asp Pro Val Arg Ile Lys Ser Lys Arg Ser Ser
180          210          215          220
183 Phe Ser Ser Ser Asn Glu Asn Gly Ala Pro Lys Lys Arg Arg Thr Val
184 225          230          235          240
187 Ala Ala Gly Gly Gly Met Asp Lys Gly Leu Thr Val Lys Cys Glu Val
188          245          250          255
191 Val Glu Val Ala Arg Gly Asp Arg Leu Leu Val Leu
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198 <213> ORGANISM: Arabidopsis thaliana
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202 <222> LOCATION: (1)..(798)
203 <223> OTHER INFORMATION: G634
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209 1          5          10          15
211 tca cct att agt tca aga cct cct gct aac aac tta gaa gag ctt atg      96
212 Ser Pro Ile Ser Ser Arg Pro Pro Ala Asn Asn Leu Glu Glu Leu Met
213          20          25          30
215 aga ttc tca gcc gcc gcg gat gac ggt gga tta gga ggt gga ggt gga      144
216 Arg Phe Ser Ala Ala Ala Asp Asp Gly Gly Leu Gly Gly Gly Gly Gly
217          35          40          45
219 gga gga gga gga gga agt gct tct tct tca tcg gga aat cga tgg ccg      192

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Input Set : D:\MBI25 sequence listing.ST25.txt

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220 Gly Gly Gly Gly Gly Ser Ala Ser Ser Ser Ser Gly Asn Arg Trp Pro
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223 aga gaa gaa act tta gct ctt ctt cgg atc cga tcc gat atg gat tct      240
224 Arg Glu Glu Thr Leu Ala Leu Leu Arg Ile Arg Ser Asp Met Asp Ser
225 65      70      75      80
227 act ttt cgt gat gct act ctc aaa gct cct ctt tgg gaa cat gtt tcc      288
228 Thr Phe Arg Asp Ala Thr Leu Lys Ala Pro Leu Trp Glu His Val Ser
229      85      90      95
231 agg aag cta ttg gag tta ggt tac aaa cga agt tca aag aaa tgc aaa      336
232 Arg Lys Leu Leu Glu Leu Gly Tyr Lys Arg Ser Ser Lys Lys Cys Lys
233      100      105      110
235 gag aaa ttc gaa aac gtt cag aaa tat tac aaa cgt act aaa gaa act      384
236 Glu Lys Phe Glu Asn Val Gln Lys Tyr Tyr Lys Arg Thr Lys Glu Thr
237      115      120      125
239 cgc ggt ggt cgt cat gat ggt aaa gct tac aag ttc ttc tct cag ctt      432
240 Arg Gly Gly Arg His Asp Gly Lys Ala Tyr Lys Phe Phe Ser Gln Leu
241      130      135      140
243 gaa gct ctc aac act act cct cct cct cct cct tct cat cct cac gct      480
244 Glu Ala Leu Asn Thr Thr Pro Pro Pro Pro Pro Ser His Pro His Ala
245 145      150      155      160
247 cat caa cca gaa cag aaa caa caa caa caa cca caa caa gag atg gtc      528
248 His Gln Pro Glu Gln Lys Gln Gln Gln Gln Pro Gln Gln Glu Met Val
249      165      170      175
251 atg agc tcg gaa caa tca tca tta cca tca tca tca aga tgg cca aag      576
252 Met Ser Ser Glu Gln Ser Ser Leu Pro Ser Ser Ser Arg Trp Pro Lys
253      180      185      190
255 gca gag att cta gcg ctt ata aac ctg aga agt gga atg gaa cca agg      624
256 Ala Glu Ile Leu Ala Leu Ile Asn Leu Arg Ser Gly Met Glu Pro Arg
257      195      200      205
259 tac caa gat aat gta cct aaa gga ctt cta tgg gaa gag atc tca act      672
260 Tyr Gln Asp Asn Val Pro Lys Gly Leu Leu Trp Glu Glu Ile Ser Thr
261      210      215      220
263 tca atg aag aga atg gga tac aac aga aac gct aag aga tgt aaa gag      720
264 Ser Met Lys Arg Met Gly Tyr Asn Arg Asn Ala Lys Arg Cys Lys Glu
265 225      230      235      240
267 aaa tgg gaa aac ata aac aaa tac tac aag aaa gtt aaa gaa agc aac      768
268 Lys Trp Glu Asn Ile Asn Lys Tyr Tyr Lys Lys Val Lys Glu Ser Asn
269      245      250      255
271 aac agc aac tac aac aac aag aat caa tga      798
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273      260      265
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278 <212> TYPE: PRT
279 <213> ORGANISM: Arabidopsis thaliana
281 <400> SEQUENCE: 4
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Input Set : D:\MBI25 sequence listing.ST25.txt

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295 Gly Gly Gly Gly Gly Ser Ala Ser Ser Ser Ser Gly Asn Arg Trp Pro
296          50          55          60
299 Arg Glu Glu Thr Leu Ala Leu Leu Arg Ile Arg Ser Asp Met Asp Ser
300 65          70          75          80
303 Thr Phe Arg Asp Ala Thr Leu Lys Ala Pro Leu Trp Glu His Val Ser
304          85          90          95
307 Arg Lys Leu Leu Glu Leu Gly Tyr Lys Arg Ser Ser Lys Lys Cys Lys
308          100         105         110
311 Glu Lys Phe Glu Asn Val Gln Lys Tyr Tyr Lys Arg Thr Lys Glu Thr
312          115         120         125
315 Arg Gly Gly Arg His Asp Gly Lys Ala Tyr Lys Phe Phe Ser Gln Leu
316          130         135         140
319 Glu Ala Leu Asn Thr Thr Pro Pro Pro Pro Pro Ser His Pro His Ala
320 145          150         155         160
323 His Gln Pro Glu Gln Lys Gln Gln Gln Gln Pro Gln Gln Glu Met Val
324          165         170         175
327 Met Ser Ser Glu Gln Ser Ser Leu Pro Ser Ser Ser Arg Trp Pro Lys
328          180         185         190
331 Ala Glu Ile Leu Ala Leu Ile Asn Leu Arg Ser Gly Met Glu Pro Arg
332          195         200         205
335 Tyr Gln Asp Asn Val Pro Lys Gly Leu Leu Trp Glu Glu Ile Ser Thr
336          210         215         220
339 Ser Met Lys Arg Met Gly Tyr Asn Arg Asn Ala Lys Arg Cys Lys Glu
340 225          230         235         240
343 Lys Trp Glu Asn Ile Asn Lys Tyr Tyr Lys Lys Val Lys Glu Ser Asn
344          245         250         255
347 Asn Ser Asn Tyr Asn Asn Lys Asn Gln
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353 <212> TYPE: DNA
354 <213> ORGANISM: Arabidopsis thaliana
356 <220> FEATURE:
357 <221> NAME/KEY: CDS
358 <222> LOCATION: (77)..(496)
359 <223> OTHER INFORMATION: G1792
362 <400> SEQUENCE: 5
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365 tagaacacca aagtta atg gag agc tca aac agg agc agc aac aac caa tca 112
366          Met Glu Ser Ser Asn Arg Ser Ser Asn Asn Gln Ser
367          1          5          10
369 caa gat gac aag caa gct cgt ttc cgg gga gtt cga aga agg cct tgg 160
370 Gln Asp Asp Lys Gln Ala Arg Phe Arg Gly Val Arg Arg Pro Trp
371          15          20          25
373 gga aag ttt gca gca gag att cga gac ccg tcg aga aac ggt gcc cgt 208
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VERIFICATION SUMMARY

DATE: 09/18/2001

PATENT APPLICATION: US/09/934,455

TIME: 10:14:26

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L:20 M:271 C: Current Filing Date differs, Replaced Current Filing Date